Long-Term Liabilities

Chapter 14

Wild and Shaw

Fundamental Accounting Principles

25th Edition

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Chapter 14 Learning Objectives

CONCEPTUAL

C1 Explain the types of notes and prepare entries to account for notes.

C2 *Appendix 14A*—Explain and compute bond pricing.

C3 *Appendix 14C*—Describe accounting for leases and pensions.

ANALYTICAL

A1 Compare bond financing with stock financing.

A2 Analyze the debt-to-equity ratio and assess debt features.

PROCEDURAL

P1 Account for par bonds.

P2 Account for discount bonds.

P3 Account for premium bonds.

P4 Record the retirement of bonds.

P5 *Appendix 14B—A*mortization using effective interest method.

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Learning Objective A1

Compare bond financing with stock financing.

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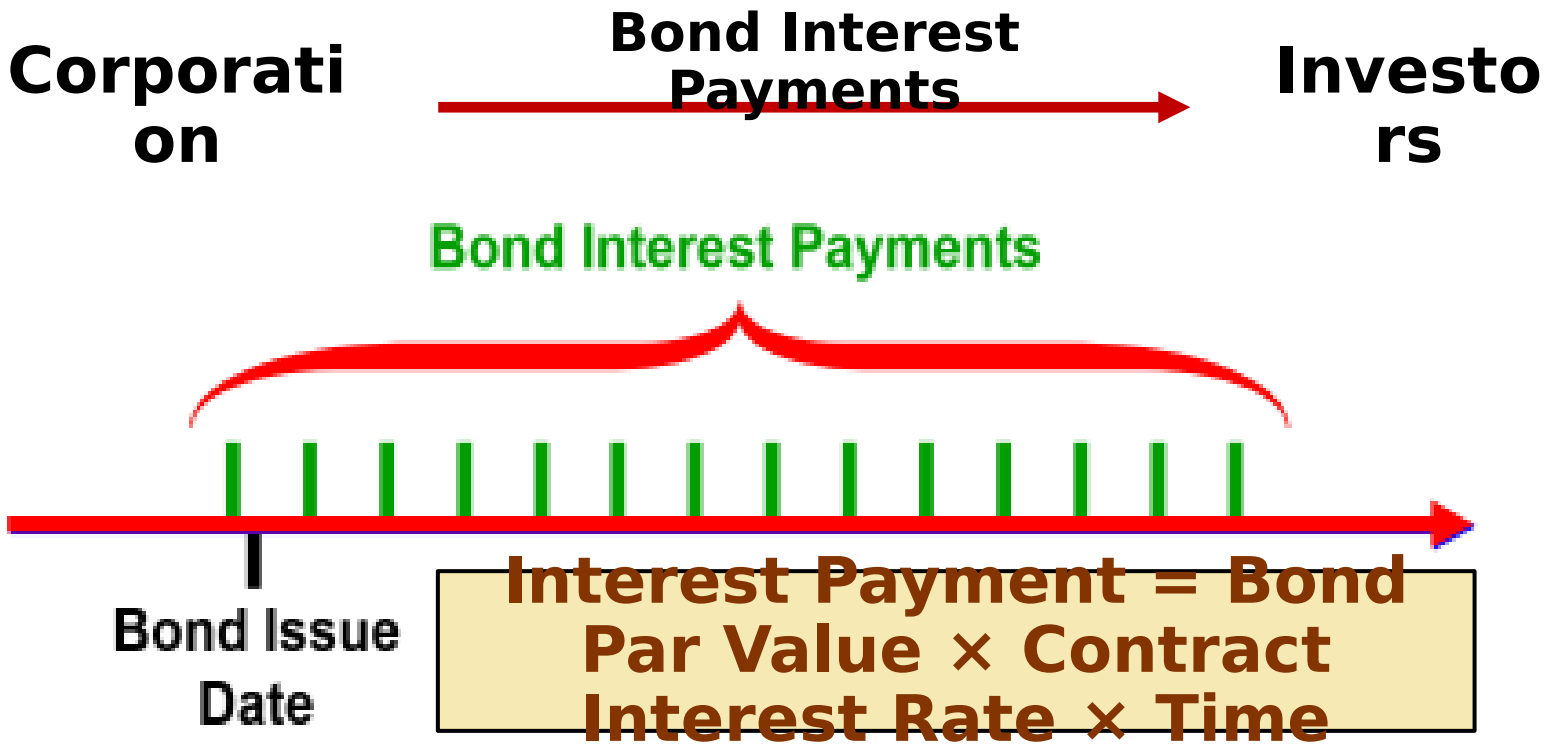
Bond Financing

Transactions during the bond life



Learning Objective A1: Compare bond financing with stock financing.

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Bond Financing: Advantages and Disadvantages

Advantages

Bonds do not affect owner control.

Interest on bonds is tax deductible.

Bonds can increase return on equity.

Disadvantages

Bonds require payment of both periodic interest and par value at maturity.

Bonds can decrease return on equity.

Learning Objective A1: Compare bond financing with stock financing.

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Bond Issuance

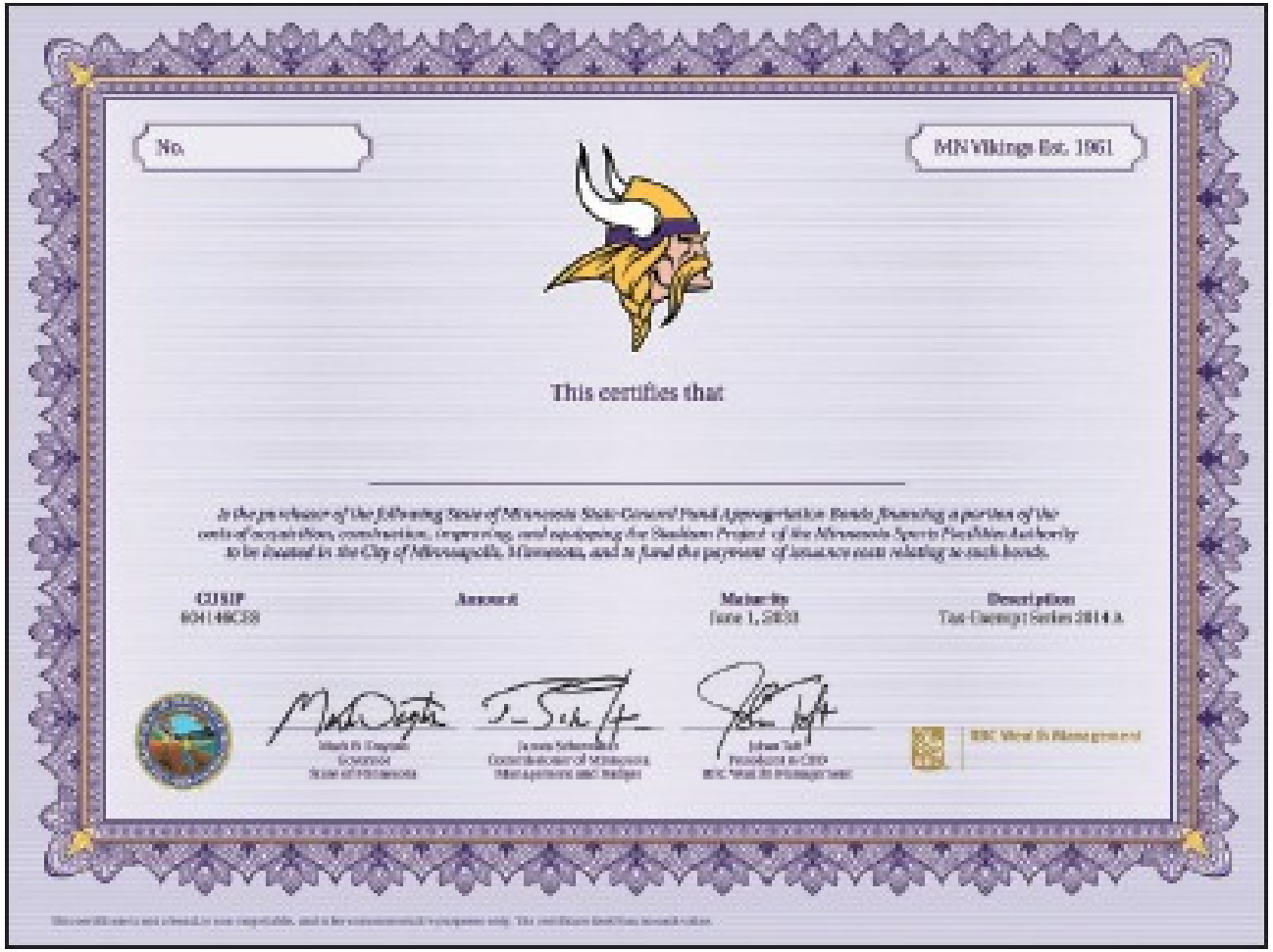

Exhibit 14.2

Learning Objective A1: Compare bond financing with stock financing.

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Bond Trading

Bonds	Rate	Mat	Yld	Vol	Close	Chg
IBM	4	42	3.81	110	103.08	+0.73%

Bonds are securities that can be purchased or sold in the securities markets. They have a market value which is expressed as a percent of their par value. The closing price indicates that the IBM bond is being sold at 103.08% of face value.

Learning Objective A1: Compare bond financing with stock financing.

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Learning Objective P1

Account for par bonds.

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Issuing Bonds at Par: Issue Date

On Dec. 31, 2021, a company issued the following bonds:
Par Value: $100,000
Stated Interest Rate: 8%
Interest Dates: 6/30 and 12/31
Maturity Date = Dec. 31, 2023 (2 years)

Dec. 31, 2021	Cash	100,000	
	Bonds Payable		100,000
	Sold bonds at par.		

Learning Objective P1: Account for par bonds.

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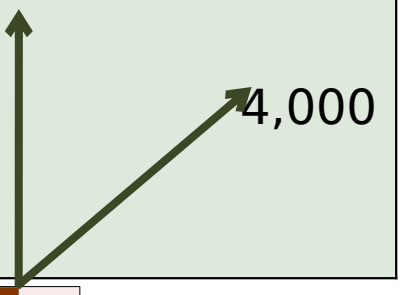
Issuing Bonds at Par: Interest Payments

On June 30, 2022, the issuer of the bond pays the first semiannual interest payment of $4,000.

June 30, 2022	Bond Interest Expense	4,000	
	Cash		4,000
	Paid semiannual interest (8% × $100,000 × 1/2 year).		



$100,000 × 8% × ½ year = $4,000

This entry is made every six months until the bonds mature.

Learning Objective P1: Account for par bonds.

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Issuing Bonds at Par: Maturity

On December 31, 2023, the bonds mature and the issuer of the bond pays face value of $100,000 to the bondholders.

Dec. 31, 2023	Bonds Payable	100,000	
	Cash		100,000
	Paid bond principal at maturity		

Learning Objective P1: Account for par bonds.

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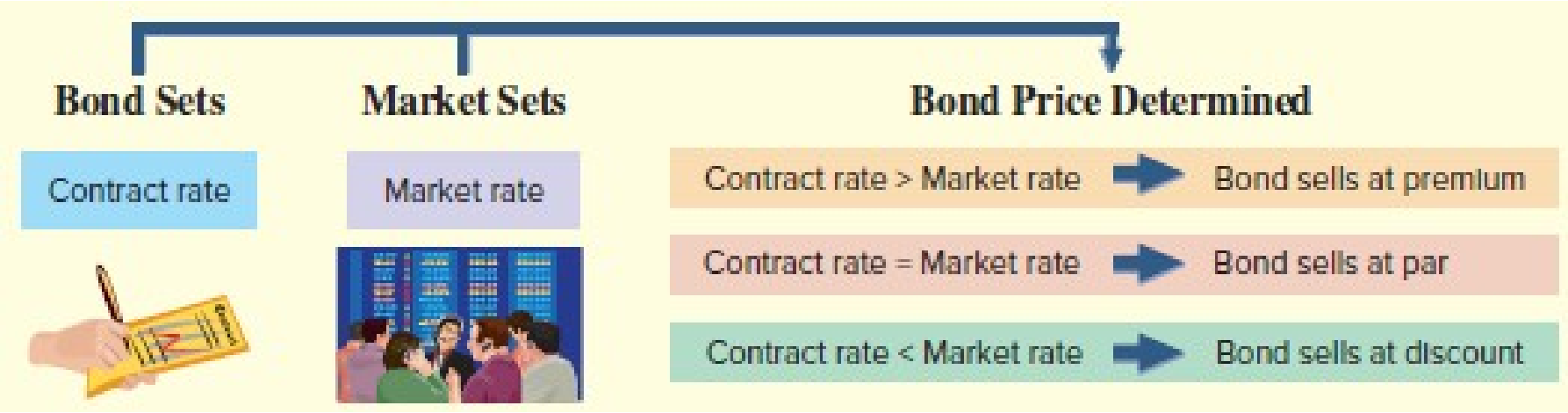
Bond Discount or Premium

Exhibit 14.3



Learning Objective P1: Account for par bonds.

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Learning Objective P2

Account for discount bonds.

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Discount Bond

Fila issues bonds with the following provisions:

Par Value: $100,000

Issue Price: 96.400% of par value

Stated Interest Rate: 8%

Market Interest Rate: 10%

Bond will sell at a discount.

Interest Dates: 6/30 and 12/31

Bond Date: Dec. 31, 2021

Maturity Date: Dec. 31, 2023 (2 years)

Learning Objective P2: Account for discount bonds.

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Discount Bonds: Issue Date

On Dec. 31, 2021, Fila should record the bond issue.

	$
Par value	100,000
Cash proceeds	96,400 *
	$

Dec. 31, 2021	Cash	96,400	
	Discount on Bonds Payable	3,600	
	Bonds Payable		100,000
	Sold bonds at a discount on the issue date.		

Contra-Liability Account

Learning Objective P2: Account for discount bonds.

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Discount Bonds: Interest

Balance Sheet Presentation of Bond Discount		
Long-term liabilities:		
Bonds payable	1,00,000	
Less discount on bonds payable	3,600	96,400

Maturity Value

Carrying Value

Exhibit 14.6

Part A: Interest Computations

Four payments of $4,000 (4 pymts × [$100,000 × 0.08 × 1/2 yr])	$ 16,000
Plus discount	3,600
Total bond interest expense	**$19,600**

Bond interest expense (per interest period) = Total bond interest expense / Number of interest periods = $19,600 / 4 = $4,900

Part B: Record Semiannual Interest Payment and Amortization

2022–2023 June 30 and Dec. 31	Bond Interest Expense	4,900	
	Discount on Bonds Payable		900
	Cash		4,000
	Record interest and discount amortization.		

Discount ÷ Periods

Par value × ½ × Contract rate

Learning Objective P2: Account for discount bonds.

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Discount Bonds: Amortization

Exhibit 14.7

Semiannual Period-End		Unamortized Discount	Carrying Value
(0)	12/31/2021	$3,600	$ 96,400
(1)	6/30/2022	2,700	97,300
(2)	12/31/2022	1,800	98,200
(3)	6/30/2023	900	99,100
(4)	**12/31/2023**	**0**	**100,000**

The columns always sum to par value for discount bonds.

Learning Objective P2: Account for discount bonds.

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Learning Objective P3

Account for premium bonds.

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Premium Bonds

Adidas issues bonds with the following provisions:

Par Value: $100,000

Issue Price: 103.600% of par value

Stated Interest Rate: 12%

Market Interest Rate: 10%

Interest Dates: 6/30 and 12/31

Bond Date: Dec. 31, 2021

Maturity Date: Dec. 31, 2023 (2 years)

Bond will sell at a premium.

Learning Objective P3: Account for premium bonds.

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Premium Bonds: Issue Date

On Dec. 31, 2021, Adidas will record the bond issue as:

	$
Par value	100,000
Cash proceeds	103,600 *

Dec. 31, 2021	Cash	103,600	
	Premium on Bonds Payable		3,600
	Bonds Payable		100,000
	Sold bonds at a premium on the issue date.		

Adjunct Liability Account

Learning Objective P3: Account for premium bonds.

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Premium Bonds: Carrying Value

Balance Sheet Presentation of Bond Premium		
Long-term liabilities:		
Bonds payable	1,00,000	
Plus premum on bonds payable	3,600	1,03,600

Maturity Value

Carrying Value

Dec. 31, 2021	Cash	103,600	
	Premium on Bonds Payable		3,600
	Bonds Payable		100,000
	Sold bonds at a premium on their issue date.		

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Premium Bonds: Interest

Adidas will make the following entry every six months to record the cash interest payment and the amortization of the discount.

Part A: Interest Computations

Four payments of $6,000 (4 pymts × [$100,000 × 0.12 × 1/2 yr])	$ 24,000
Less premium	(3,600)
Total bond interest expense	$20,400

$$\text{Bond interest expense (per interest period)} = \frac{\text{Total bond interest expense}}{\text{Number of interest periods}} = \frac{\$20{,}400}{4} = \$5{,}100$$

Part B: Record Semiannual Interest Payment and Amortization

2022–2023 June 30 and Dec. 31	Bond Interest Expense	5,100	
	Premium on Bonds Payable	900	Premium ÷ Periods
	Cash	6,000	Par value × ½ × Contract rate
	Record interest and premium amortization.		

Exhibit 14.10

$3,600 ÷ 4 periods = $900 (rounded)

$100,000 × 12% × ½ = $6,000

Learning Objective P3: Account for premium bonds.

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Premium Bond: Amortization

Exhibit 14.11

Semiannual Period-End		Unamortized Premium	Carrying Value
(0)	12/31/2021 . . .	$3,600	$103,600
(1)	6/30/2022 . . .	2,700	102,700
(2)	12/31/2022 . . .	1,800	101,800
(3)	6/30/2023 . . .	900	100,900
(4)	12/31/2023 . . .	**0**	**100,000**

During the bond life, carrying value is adjusted to par and the amortized premium to zero.

Learning Objective P3: Account for premium bonds.

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Learning Objective P4

Record the retirement of bonds.

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Bond Retirement

Retirement of the Fila bonds at maturity for $100,000 cash.

Dec. 31, 2023	Bonds Payable	100,000	
	Cash		100,000
	Discount or premium will be fully amortized		

Because any discount or premium will be fully amortized at maturity, the carrying value of the bonds will be equal to par value.

Learning Objective P4: Record the retirement of bonds.

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Bond Retirement before Maturity

Carrying Value > Retirement Price = Gain

Carrying Value < Retirement Price = Loss

Assume that $100,000 of callable bonds will be retired on July 1, after the first interest payment. The bond carrying value is $104,500.The bonds have a call premium of $3,000.

July 1	Bonds Payable	100,000	
	Premium on Bonds Payable.	4,500	
	Gain on Bond Retirement		1,500
	Cash		103,000
	Record retirement of bonds before maturity.		

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Learning Objective C1

Explain the types of notes and prepare entries to account for notes.

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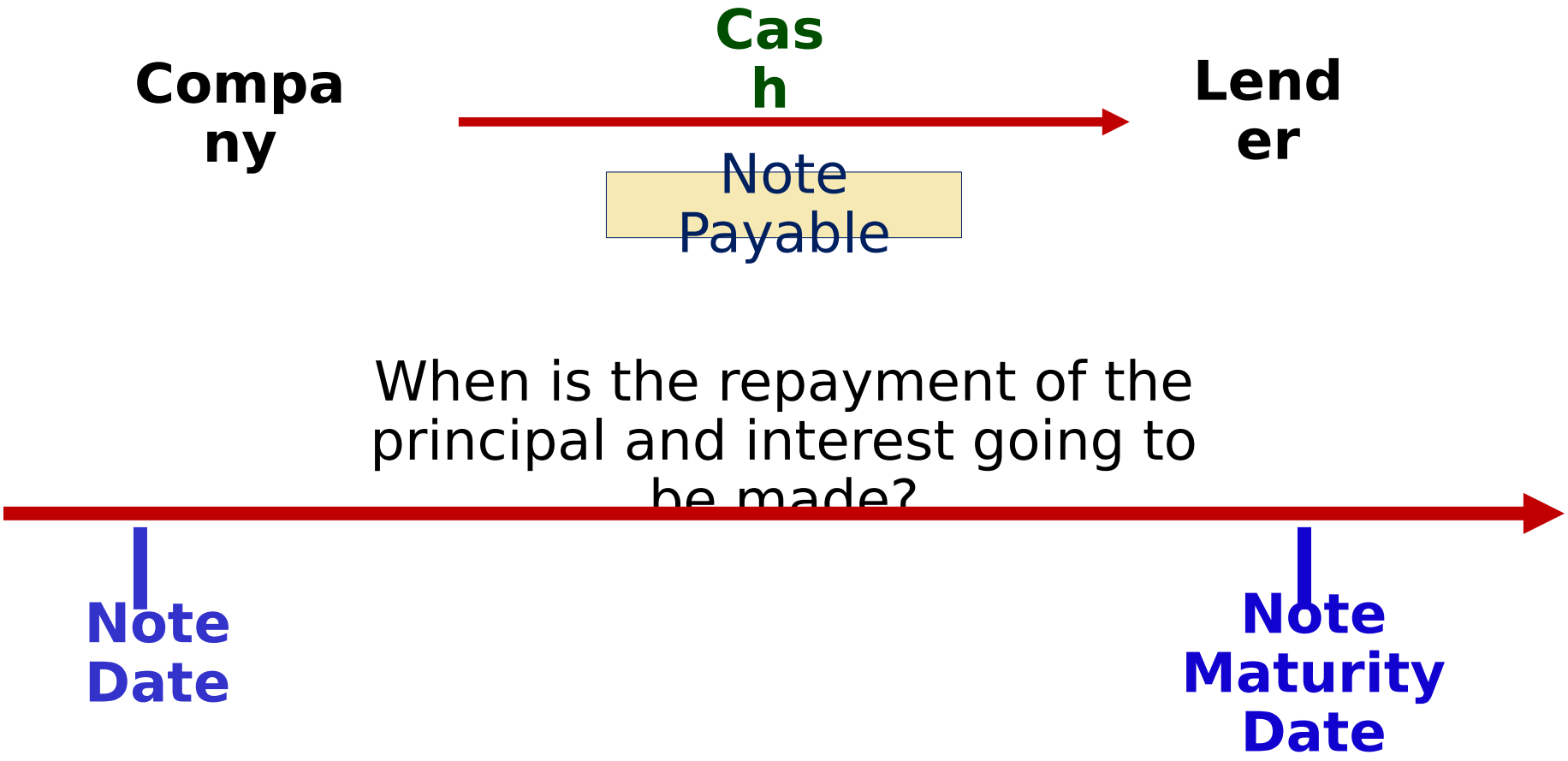
Long-Term Notes Payable



Learning Objective C1: Explain the types of notes and prepare entries to account for notes.

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Installment Notes

On January 1, 2021, Foghog borrows $60,000 from a bank to purchase equipment. It signs an 8% installment note requiring 3 annual payments of principal plus interest.

Jan. 1	Cash	60,000	
	Notes Payable		60,000

Compute the periodic payment by dividing the face amount of the note by the present value factor.

Computation	Table	Table Value	Present Value	Payment
Principal divided by PV factor	PV of Annuity of $1 (B.3)	2.5771	60,000	23,282

Learning C
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Installment Notes with Equal Payments

Exhibit 14.12

Period Ending Date	(A) Beginning Balance	Payments (B) *Debit* Interest Expense 8% × (A)	+	(C) *Debit* Notes Payable (D) – (B)	=	(D) *Credit* Cash (computed)	(E) Ending Balance (A) – (C)
(1) 12/31/2021	$60,000	$4,800		$ 18,482		$23,282	$41,518
(2) 12/31/2022	41,518	3,321		19,961		23,282	21,557
(3) 12/31/2023	21,557	1,725		21,557		23,282	0
		$9,846		$60,000		$69,846	

*Table B.3 in Appendix B is used to compute the dollar amount of three payments that equal the initial note balance of $60,000 at 8% interest. We go to Table B.3, row 3, and across to the 8% column, where the present value factor is 2.5771. The dollar amount is then computed by solving the following equation. The amount is computed by dividing $60,000 by 2.5771, yielding $23,282.

Table	Present Value Factor		Dollar Amount		Present Value
B.3	2.5771	×	?	=	$60,000

Learning Objective C1: Explain the types of notes and prepare entries to account for notes.

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Installment Notes with Equal Payments: Journal Entries

The three journal entries for this installment note payable are shown below.

		2021	2022	2023
Dec. 31	Interest Expense	4,800	3,321	1,725
	Notes Payable	18,482	19,961	21,557
	Cash	23,282	23,282	23,282
	Record installment payments.			

Learning Objective C1: Explain the types of notes and prepare entries to account for notes.

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Mortgages

A mortgage is a legal agreement that helps protect the lender if the borrower fails to make the required payments.

It gives the lender the right to be paid out of the cash proceeds from the sale of the borrower's assets specifically identified in the mortgage contract.

Learning Objective C1: Explain the types of notes and prepare entries to account for notes.

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Learning Objective A2

Analyze the debt-to-equity ratio and assess debt features.

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Features of Bonds and Notes

Secured and Unsecured	Convertible and Callable
Term and Serial	Registered and Bearer

Learning Objective A2: Analyze the debt-to-equity ratio and assess debt features.

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Debt-to-Equity Ratio

$$\text{Debt-to-equity ratio} = \frac{\text{Total liabilities}}{\text{Total equity}}$$

This ratio helps investors assess the risk of a company's financing structure.

Company	$ millions	Current Year	1 Year Ago	2 Years Ago
Nike	Total liabilities	$14,677	$12,724	$10,852
	Total equity	$ 9,040	$ 9,812	$12,407
	Debt-to-equity	1.62	1.30	0.87
Under Armour	Total liabilities	$ 2,693	$ 2,228	$ 1,988
	Total equity	$ 2,150	$ 2,017	$ 2,019

Exhibit 14.14

Learning Objective A2: Analyze the debt-to-equity ratio and assess debt features.

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Learning Objective C2

Appendix 14A
Explain and compute bond pricing.

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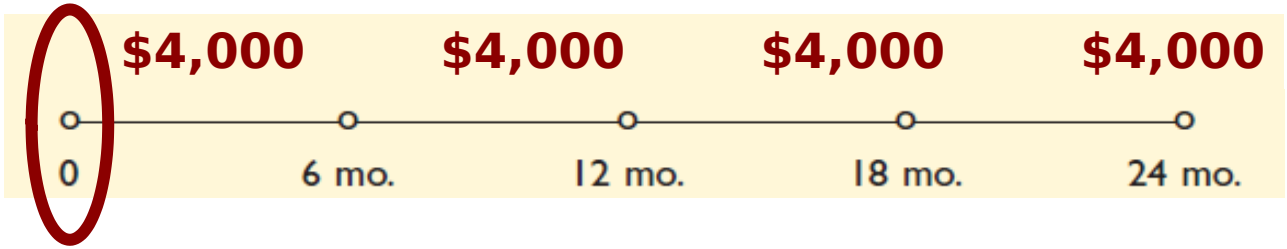
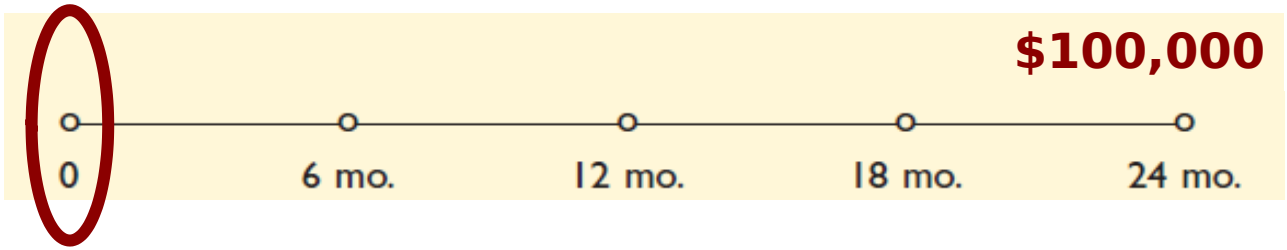
Bond Pricing

Cash Outflows related to Interest Payments



Cash Outflows for par value at end of Bond life



Learning Objective C2: Explain and compute bond pricing.

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Present Value of Discount Bond

Fila issues bonds with the following provisions:

Par Value: $100,000

Issue Price: ?

Stated Interest Rate: 8%

Market Interest Rate: 10.031%

Interest Dates: 6/30 and 12/31

Bond Date: Dec. 31, 2021

Maturity Date: Dec. 31, 2023 (2 years)

Learning Objective C2: Explain and compute bond pricing.

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Present Value of Discount Bonds

TABLE B.1 Excerpt
Present Value of 1

	Rate			
Periods	4.7500%	4.9851%	5.000%	5.0155%
1	0.9547	0.9525	0.9524	0.9522
2	0.9114	0.9073	0.9070	0.9068
3	0.8700	0.8642	0.8638	0.8635
4	0.8306	0.8232	0.8227	0.8222
5	0.7929	0.7841	0.7835	0.7829
6	0.7570	0.7469	0.7462	0.7456

TABLE B.3 Excerpt
Present Value of an Annuity of 1

	Rate			
Periods	4.7500%	4.9851%	5.000%	5.0155%
1	0.9547	0.9525	0.9524	0.9522
2	1.8660	1.8598	1.8594	1.8590
3	2.7361	2.7240	2.7232	2.7225
4	3.5666	3.5467	3.5460	3.5449
5	4.3596	4.3313	4.3295	4.3276
6	5.1165	5.0781	5.0757	5.0732

- Use Table B.1 Excerpt for PV of par value: Period 4 and 5.0155% rate (1/2 of annual rate of 10.031%) = 0.8222.
- Use Table B.3 Excerpt for PV of interest payments: Period 4 and 5.0155% = 3.5449.
- Interest payments: $100,000 × 8% × ½ = $4,000

Exhibit 14A.1

Cash Flow	Table	Present Value Factor		Amount		Present Value
$100,000 par (maturity) value	B.1 Excerpt (PV of 1)	0.8222	×	$100,000	=	$ 82,220
$4,000 interest payments	B.3 Excerpt (PV of ann.) (using a 5.0155% semiannual market rate)	3.5449	×	4,000	=	14,180
Price of bond						**$96,400**

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Present Value of Premium Bond

TABLE B.1 Excerpt
Present Value of 1

	Rate			
Periods	4.7500%	4.9851%	5.000%	5.0155%
1	0.9547	0.9525	0.9524	0.9522
2	0.9114	0.9073	0.9070	0.9068
3	0.8700	0.8642	0.8638	0.8635
4	0.8306	0.8232	0.8227	0.8222
5	0.7929	0.7841	0.7835	0.7829
6	0.7570	0.7469	0.7462	0.7456

TABLE B.3 Excerpt
Present Value of an Annuity of 1

	Rate			
Periods	4.7500%	4.9851%	5.000%	5.0155%
1	0.9547	0.9525	0.9524	0.9522
2	1.8660	1.8598	1.8594	1.8590
3	2.7361	2.7240	2.7232	2.7225
4	3.5666	3.5467	3.5460	3.5449
5	4.3596	4.3313	4.3295	4.3276
6	5.1165	5.0781	5.0757	5.0732

- Use Table B.1 Excerpt for PV of par value: Period 4 and 4.9851% rate (1/2 of annual rate of 9.97%) = 0.8232.
- Use Table B.3 Excerpt for PV of interest payments: Period 4 and 4.9851% = 3.5467.
- Interest payments: $100,000 × 12% × ½ = $6,000

Cash Flow	Table	Present Value Factor		Amount		Present Value
$100,000 par (maturity) value	B.1 Excerpt (PV of 1)	0.8222	×	$100,000	=	$ 82,320
$6,000 interest payments	B.3 Excerpt (PV of ann.) (using a 4.9851% semiannual market rate)	3.5449	×	6,000	=	21,280
Price of bond						**$103,600**

Exhibit 14A.2

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Learning Objective P5

Appendix 14B
Amortization using effective interest method.

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Effective Interest Amortization: Discount

Exhibit 14B.1

Effective Interest Amortization of Bond Discount

Stated Rate: 8%

Effective Rate: 10%

Bonds: $100,000 Par Value, Semiannual Interest Payments, Two-Year Life, 4% Semiannual Contract Rate, 5.0155% Semiannual Market Rate

	Semiannual Interest Period-End	(A) Cash Interest Paid 4% × $100,000	(B) Bond Interest Expense 5.0155% × Prior (E)	(C) Discount Amortization (B) – (A)	(D) Unamortized Discount Prior (D) – (C)	(E) Carrying Value $100,000 – (D)
(0)	**12/31/2021**				**$3,600**	**$ 96,400**
(1)	**6/30/2022**	**$ 4,000**	**$ 4,835**	**$ 835**	**2,765**	**97,235**
(2)	12/31/2022	4,000	4,877	877	1,888	98,112
(3)	6/30/2023	4,000	4,921	921	967	99,033
(4)	12/31/2023	4,000	4,967	967	**0**	**100,000**
		$16,000	$19,600	$3,600		

Column (**A**) is the par value ($100,000) multiplied by the semiannual contract rate (4%).
Column(**B**) is the prior period's carrying value multiplied by the semiannual market rate (5.0155%).
Column (**C**) is the difference between interest paid and bond interest expense, or [(B) – (A)].
Column (**D**) is the prior period's unamortized discount less the current period's discount amortization.

June 30, 2022	Bond Interest Expense	4,835	
	Discount on Bonds Payable		835
	Cash		4,000
	Record semiannual interest and discount amortization (effective interest method).		

Effective Interest Amortization: Premium

Bonds: $100,000 Par Value, Semiannual Interest Payments, Two-Year Life, 6% Semiannual Contract Rate, 4.9851% Semiannual Market Rate

	Semiannual Interest Period-End	(A) Cash Interest Paid 4% × $100,000	(B) Bond Interest Expense 5.0155% × Prior (E)	(C) Discount Amortization (B) – (A)	(D) Unamortized Discount Prior (D) – (C)	(E) Carrying Value $100,000 – (D)
(0)	**12/31/2021**				**$3,600**	**$ 103,600**
(1)	**6/30/2022**	**$ 6,000**	**$ 5,165**	**$ 835**	**2,765**	**102,755**
(2)	12/31/2022	6,000	5,123	877	1,888	101,888
(3)	6/30/2023	6,000	5,079	921	967	100,967
(4)	12/31/2023	6,000	5,033	967	**0**	**100,000**
		$24,000	$20,400	$3,600		

Column (**A**) is the par value ($100,000) multiplied by the semiannual contract rate (6%).
Column (**B**) is the prior period's carrying value multiplied by the semiannual market rate (4.9851%).
Column (**C**) is the difference between interest paid and bond interest expense, or [(A) – (B)].
Column (**D**) is the prior period's unamortized premium less the current period's premium amortization.

June 30, 2022	Bond Interest Expense	5,165	
	Premium on Bonds Payable	835	
	Cash		6,000
	Record semiannual interest and premium amortization (effective interest method).		

Exhibit 14B.2

Effective Interest Amortization of Bond Premium

Stated Rate: 12%

Effective Rate: 9.9702%

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Learning Objective C3

Appendix 14C
Describe accounting for leases and pensions.

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Leases

A lease is an agreement between the lessor (owner) and the lessee (asset renter or tenant) that gives the lessee the right to use the asset for a period of time in return for cash (rent) payments.

Finance Leases

Finance leases are long-term leases where the lessee receives substantially all remaining benefits of the asset. Must meet one or more of five criteria:

1. transfers ownership of lease asset to lessee;
2. has a purchase option that lessee is reasonably certain to exercise;
3. lease term is for major part of lease asset's remaining economic life;
4. present value of lease payments equal or exceed substantially all of the lease asset's fair value; or
5. lease asset is specialized and expected to have no alternative use to lessor at

Learning Objective C3: Describe accounting for leases and pensions.

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Operating Leases

Operating Leases

Operating leases are long-term leases that do not meet any of the five criteria for finance leases. Examples include most car and apartment rental agreements.

		2021	2022	2023
Dec. 31	Amortization Expense	19,016	19,984	21,000
	Accumulated Amortization—Right-of-Use Asset	19,016	19,984	21,000

Record amortization on right-of-use asset:

Amortization = Lease Payment − Interest on Lease Liability

For 2021 **$19,016** = $21,000 − $1,984

For 2022 **$19,984** = $21,000 − $1,016

For 2023 **$21,000** = $21,000 − $ 0

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Pensions

A pension is an agreement for the employer to provide benefits (payments) to employees after they retire.

Defined Benefit Plans

The employer's contributions vary, depending on assumptions about future pension assets and liabilities. A pension liability is reported when the accumulated benefit obligation is more than the plan assets, a so-called underfunded plan.

Learning Objective C3: Describe accounting for leases and pensions.

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End of Chapter 14

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